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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Clarke

Group Art Unit 1794

Serial No.: 10/597,515

Examiner Thakur, Viren A

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APPEAL BRIEF

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(i) Real Party in Interest

The real parties in interest are Apio Incorporated, 4575 W. Main St., Guadalupe, CA 93434, to which the application is assigned, and Landec Corporation, 3603 Haven Ave., Menlo Park, CA 94025-1010. Apio Inc. is a wholly-owned subsidiary of Landec Corporation.

(ii) Related Appeals and Interferences

There are no related appeals and interferences.

(iii) Status of Claims

Claims 1-16, 19-21, 29 and 37 18, 20, 22-23, 28, and 30 are canceled.

Claims 53 and 54 have never been part of the record. The response mailed June 23, 2011, adds new claims 38-52 and 55-60; through error, no claims 53 and 54 were presented. One of the amendments requested in the response to the Final Rejection (none of which amendments has been entered) was to renumber claims 55-60 as claims 53-58.

Claims 17, 18, 22-28, 30-36, 38- 52 and 55-60 are rejected and are appealed.

(iv) Status of Amendments

The amendments requested in the response to the Final Rejection have not been entered.

(v) Summary of Claimed Subject Matter

(v)1 General

The claims do not contain any means or step defined as a means plus function or step plus function.

(v)2 Summary of the Independent Claims.

Background

It is well-known that respiring biological materials are preferably stored within a controlled atmosphere, in particular a packaging atmosphere having desired proportions

of oxygen and carbon dioxide. There are two different ways of producing the desired packaging atmosphere. The first is to put the biological materials into a sealed package whose walls are impervious to gases and to inject the desired atmosphere into the sealed package. Because the biological materials respire (i.e. consume oxygen and produce carbon dioxide), the initial atmosphere changes over the course of time. It is necessary, therefore, to provide a source of the desired gas(es) and to continue to inject additional gases into the sealed package to compensate for the respiration of the biological materials. The second way is to put the biological materials into a package which is sealed except for an atmosphere control member which has one surface in contact with the packaging atmosphere and the opposite surface in contact with the exterior atmosphere, usually air. The term "atmosphere control member" (ACM) is well known to those skilled in the art and is described in paragraphs 0033-0042, and in the documents Incorporated by reference in paragraph 007. In brief, it is a sheet-like member which is pervious to oxygen and carbon dioxide, and which modifies the rates at which oxygen and carbon dioxide passing into and out of a sealed container. Because the rates at which oxygen and carbon dioxide pass into and out of the sealed container are determined by the partial pressures of the gases in question on the opposite surfaces of the ACM (and the permeability characteristics of the ACM), the desired packaging atmosphere can be maintained despite the respiration of the biological materials.

The claimed invention relates to atmosphere control within a sealed **shipping container** containing respiring biological materials, and makes use of an ACM-containing module which is placed **within** the shipping container, rather than an ACM placed on the exterior of the shipping container.

The independent claims are claims 17, 34, 45 and 55.

Claim 17, which is the first independent claim, claims a container system which comprises

(a) a shipping container (defined, as in paragraph 0045, as a container which can be loaded onto and transported by a ship or a truck, which has a capacity of at least 40 m^3 and which has an exterior surface),

(b) a respiring biological material which is sealed within the shipping container and is surrounded by an inner atmosphere, and

(c) a module which (i) was constructed separately from the shipping container (ii) is within the container, and (iii) comprises a closed chamber including an ACM, an inlet for gas and an outlet for gas, the ACM having a surface area greater than 0.65 m^2 and having a first surface which is in direct contact with the inner atmosphere and a second surface which is not in direct contact with the inner atmosphere, is not part of the exterior surface of the container, and is in direct contact with a second atmosphere.

The system claimed in claim 17 is described generally in paragraphs 0015-0019 and illustrated in Figures 3-5. Figures 3-5 also illustrate various means (which are not explicitly set out in claim 17) for passing a second atmosphere through the closed chamber of the module. Figures 1 and 2 illustrate a module. Paragraphs 0083-0087 provide a detailed description of the Figures.

Claim 55 is also a claim to a container system. Claim 55 has all the features of claim 17 and in addition requires the presence of an auxiliary closed chamber which (i) is within the container, (ii) is separate from the module, and (iii) comprises an auxiliary ACM which has an R ratio of 1.0 to 2.3 and comprises a first surface in direct contact with the inner atmosphere and a second surface which is not in direct contact with the inner atmosphere, is not part of the exterior surface of the container, and is in direct contact with an auxiliary second atmosphere.

Claim 34 is a claim to a method of loading a shipping container (defined as in claim 17), the method comprising loading a respiring biological material into the container; after the loading step, placing in the container a module (defined as in claim 17); connecting the inlet of the module to a first conduit which is connected to one or more sources of the second atmosphere; connecting the outlet of the module to a second conduit which provides a gas disposal means; and sealing the container.

Claim 45 is a claim to a method of unloading a container system as defined in claim 17, the method comprising unsealing the container; then removing the module; and then unloading the respiring biological material.

(vi) Grounds of Rejection to Be Reviewed on Appeal

The rejections to be reviewed on appeal are the rejections of

(1) claims 17, 22, 30-32, 34, 35 and 45 over Revue Generale du Froid, 3 March, 1974, pp 217-236 (hereinafter "Marcellin") in view of US 6,256,905 (hereinafter "White"),

(2) claims 18, 44 and 46 over Marcellin in view of White, and in further view of US 5,801,317 (hereinafter Liston),

(3) claims 23, 33, 36, 38, 47 and 48 over Marcellin in view of White and in further view of US 6,376,032 (hereinafter "Clarke 032"),

(4) claim 24 over Marcellin and White, in further view of Clarke 032 and US 6,013,293 (hereinafter "DeMoor"),

(5) claims 25-28, 39 and 49 over Marcellin in view of White as applied to claim 17, 34 and 45, and in further view of Clarke 032, DeMoor and US 4,949,847 (hereinafter "Nagata"),

(6) claims 40-42, 50-52, 55 and 57-60 over Marcellin in view of White,

(7) claims 40-42, 50-52, 55 and 57-60 over Marcellin in view of White and in view of US 6,007,603 (hereinafter "Garrett") and DeMoor,

(8) claim 43 over Marcellin in view of White, Garrett, Clarke 032 and DeMoor and in further view of US 2002 0127305 (hereinafter Clarke 305), and

(8) claim 56 over Marcellin in view of White, or Marcellin in view of White, Garrett, and DeMoor, either or both in further view of Clarke 032,

The Provisional Double Patenting Rejections

For the sake of completeness, it should be noted that the final Office Action also contains the following **provisional** rejections on the ground of nonstatutory obviousness-type double patenting.

(1) Claims 17, 18, 22 and 32 as being unpatentable over claims 21, 27, 34, 36, 38 and 39 of copending Application 11/989,513 and in further view of Marcellin and White,

(2) Claim 24 as being unpatentable over claims 21, 27, 34, 36, 38 and 39 of copending Application 11/989,513 as applied to claim 17 in provisional rejection (1) and in further view of Clarke '305 and DeMoor,

(3) claims 23 and 33 as being unpatentable over claims 21, 27, 34, 36, 38 and 39 of copending Application 11/989,513 as applied to claim 17 in provisional rejection (1) and in further view of Clarke '032,

(4) claims 25-28 as being unpatentable over claims 21, 27, 34, 36, 38 and 39 of copending Application 11/989,513 as applied to claim 17 in provisional rejection (1) and in further view of Clarke '032, DeMoor and Nagata, and

(5) claims 55 and 57-60 as being unpatentable over claims 21, 27, 34, 36, 38 and 39 of copending Application 11/989,513 as applied to claim 17 in provisional rejection (1) and in further view of Garrett, and in further view of Clarke 032 and DeMoor.

It is not yet clear what claims will be found allowable in this application or in the copending Application 11/989,513 (on which there is a Final Office Action to which no response has yet been filed). As noted in the response to the Final Office Action on this application, Applicant will give proper consideration to these provisional rejections when it is clear what claims will be allowed in the two applications

(vii) ARGUMENT

(vii)1 Claims for which Patentability will be Argued.

For the limited purposes of this appeal, Applicant will argue only for the patentability of claim 17, 34 and 45. Thus Applicant admits, for the limited purposes of this appeal, that

(a) if claim 17 is not patentable, claims 18-33 and 55-60 are not patentable,

(b) if claim 34 is not patentable, claims 35-34, are not patentable, and

(c) if claim 45 is not patentable, claims 46-52 are not patentable.

Since Applicant will argue only for the patentability of claims which are rejected only over the combination of Marcellin and White, this appeal brief will not discuss the other

references or the other rejections. Applicant retains the right to argue in a continuing application for the patentability of claims other than claim 17, 34 and 45.

(vii)2 Summary of Marcellin.

Marcellin is a translation of an article in French. Marcellin discloses, in particular in Figure 10A on page 231, an ACM-containing "battery" or "exchanger-diffuser", which is "housed inside" what the translation calls a "cooler" containing a respiring biological material. Air is passed through the battery, and gas exchange takes place through the ACM in order to control the atmosphere surrounding the biological material.

Marcellin makes it clear that the item which the translation calls a "cooler" is a room, i.e. a structure having a fixed and permanent location. The words in the original French language version of Marcellin which have been translated as "cooler" are either "chambre froide" or "chambre", and the correct translations of those French words are "cold room," and "room". Other passages in Marcellin confirm that Marcellin is concerned only with structures having a fixed and permanent location. For example, page 234, states that the "cooler" is a refrigerated storage depot. A storage depot is of course a structure which has a fixed and permanent location.

Marcellin's illustration of an internal "battery" shows a structure which is permanently affixed to a side wall of a cold room. Continuous conduits for passing gas into and out of the battery pass uninterrupted through the side wall of the cool room, and form a monolithic structure with the battery itself.

For the avoidance of unnecessary dispute, Applicant agrees that Marcellin's cold room has a capacity of at least 40 m^3 and that Marcellin's battery includes an inlet for incoming gas, an outlet for outgoing gas, and an ACM which has a surface area greater than 0.65 m^2 and which comprises first and second surfaces as defined in, for example, claim 17.

Marcellin fails to disclose the following features in claims 17, 34 and 45.

1. A shipping container (claims 17, 34 and 45).

2. A module which was constructed separately from the shipping container and which is placed in the shipping container after the respiring biological material has been loaded into it (claim 34).

3. A module which was constructed separately from the shipping container and which is removed from the shipping container before the respiring biological material is removed from the shipping container (claim 45).

(vii)3 Summary of White.

White discloses a system which injects a gas of desired composition into a sealed container in order to provide a controlled atmosphere around respiring biological materials which are being transported in shipping containers. The biological materials "are placed in flexible containers or bags having a controlled atmosphere inlet and a gas outlet, to form shipping units" (Abstract). The shipping units "are supplied with controlled atmosphere gas from a suitable gas source or sources having a gas regulator or regulators" (Abstract). "During shipment and storage, controlled atmosphere gas is directed into the shipping units as needed to maintain the proper atmosphere" (Abstract). A number of the shipping units can be placed inside a conventional shipping container or a storage facility, together with the gas-producing apparatus needed to generate the controlled atmosphere which is injected into the shipping units (see, for example, the Figures). The "gaseous exhaust from the one or more shipping units may be monitored and gas directed into the shipping units is regulated accordingly" (column 6, lines 9-11).

White fails to disclose a module which comprises a closed chamber including an ACM, the ACM having a surface area greater than 0.65 m^2 and comprising a first surface in direct contact with the inner atmosphere and a second surface in direct contact with the second atmosphere.

(vii)4 Argument for the Patentability of Claim 17.

Page 5 of the Final Office Action states that "Marcellin teaches a storage container". As noted above, Marcellin discloses only a particular type of storage container, namely a "cold room". A shipping container is of course entirely different from a cold room. A cold room has a fixed and permanent location, whereas portability is an essential attribute of a shipping container.

In support of the rejections, the Final Office Action advances two arguments that the differences between a cold room and a shipping container do not make the claims patentable.

The first argument is that making Marcellin's container portable "is not sufficient by itself to patentably distinguish over an otherwise known device unless there are new or unexpected results-- see MPEP 2144.01 (V)(A)". The decision referenced in the MPEP, in re Lindberg, 190 4F.2d 732, 93 USPQ 23 (CCPA 1952), contains no discussion of this issue, which is not surprising, since the decision states that the contention "is auxiliary to appellant's basic contentions". In fact, the decision does no more than refer to an earlier decision by the Court of Appeals for the 6th Circuit, Ranco Inc v. Gwynn, 128 F.2d 437, 54 USPQ 3 (CCPA 1952), as the basis for a statement that

... it is not regarded as inventive to merely make a known device portable or movable without producing any new and unexpected result.

The Ranco decision likewise contains no discussion of this issue.

The Office Action does not suggest that the claimed invention does **not** lead to any "new or unexpected result". There cannot in fact be any doubt that the claimed invention is more than "merely making" Marcellin's cold room portable and does lead to a result which is new and unexpected, namely the ability to control the atmosphere in a shipping container as the shipping container is being moved from one destination to another.

The failure of the first argument is apparent from the fact that there is no rejection over Marcellin alone -- White is an essential part of the rejection. Thus, the second argument is that one of ordinary skill in the art would have found it obvious to combine the teachings of Marcellin and White, and that the combination results in the claimed invention.

As the summary of White above makes clear, White produces a desired packaging atmosphere within a sealed container by injecting gases directly and continuously into a container which includes the respiring biological materials. The walls of the container are necessarily impervious to gases (except of course for the inlet which is needed for the injection of gases, and the outlet which is needed to exhaust excess gases). This method of controlling the inner packaging atmosphere is

completely different from the method used by Marcellin and by the claims. In Marcellin and in the claimed invention, there is no direct injection of gases into the inner packaging atmosphere. Instead, there is an exchange of gases (chiefly oxygen and carbon dioxide) between the inner packaging atmosphere and a second atmosphere through an atmosphere control member (ACM) which is part of a module within the shipping container.

The Office Action states, on page 6:–

> *... White is similar to Marcellin since White also employs "modules" for the purpose of controlling the atmosphere within a container for preserving foodstuffs such as respiring foodstuffs (fruit or vegetables).*

The Office Action reasonably identifies Marcellin's "battery" as a "module", but does not identify any component of White's apparatus as a "module". Without such identification, it is impossible to assess the similarity, if any, between Marcellin's "battery" and the alleged "module" in White.

One possibility is that the Office Action regards each of White's "shipping units" as a "module". However, Marcellin's battery and White's shipping units are entirely different. Each of White's shipping units is a self-contained unit which is filled with respiring biological materials and the inner packaging atmosphere, and whose walls are impervious to gases (except of course for the inlet which is needed for the injection of gases, and the outlet which is needed to exhaust excess gases). By contrast, Marcellin's "battery" does not contain respiring biological materials, is surrounded by the inner packaging atmosphere, and includes walls which are pervious to gases and thus function as an atmosphere control member.

Another possibility is that the Office Action regards White's gas container and/or gas regulation unit as a "module". That would be consistent with later statements that "White clearly teaches employing hosing (which is less flexible) as the connecting conduits", and that White "teaches that the gas regulating device is removable from the container". However, Marcellin's battery and White's gas container and gas regulation unit are entirely different. Marcellin's battery is surrounded by the inner packaging atmosphere, and includes walls which are pervious to gases and which will function as an atmosphere control member. White's gas container and/or gas regulation unit are not

surrounded by the inner packaging atmosphere, and do not contain walls which are pervious to gases, but merely valves which enable a desired quantity of gas from the gas container to be injected into the "shipping units" which contain the respiring biological material.

Applicant believes that there is no component of White's system which can be regarded as "similar" to a module as disclosed by Marcellin, such that it would have been obvious to one of ordinary skill in the art to replace one by the other.

Having regard to the differences between the techniques used by Marcellin and by White, one of ordinary skill in the art would not have regarded White as a useful source of information for the modification of Marcellin. If, for the sake of argument, it is supposed that one of ordinary skill in the art did consider the possibility of modifying Marcellin in accordance with White's teaching, the result would be to do away with Marcellin's internal "battery" and simply to inject the desired atmosphere into the cold room. That would of course be directly contrary to Marcellin's teaching, and result in an apparatus and method entirely different from the claimed invention.

(vii)5 Argument for the Patentability of Claims 34 and 45.

Claim 34 is directed to loading a shipping container, and requires that the module was prepared separately from the shipping container and is placed in the container **after** the respiring biological material has been loaded into the container. Claim 45 is directed to unloading a shipping container, and requires that the module was prepared separately from the shipping container and is removed from the container **before** the respiring biological material. In those methods, the module must of course be separable from the shipping container.

Marcellin's battery is fixed to the wall of the cold room. Page 7 of the Office Action reasonably argues that, although Marcellin shows his module has integral with the remainder of the cold room, the module could have been constructed separately from the cold room and later fitted into the cold room. Applicant is not arguing, therefore, that the requirement in claim 17 that the container "was constructed separately from the shipping container" is important to patentability of claim 17. However, Applicant does contend that this requirement, **coupled with** the fact that the module is placed in the

shipping container after loading the biological materials (claim 34) or is removed from the shipping container before unloading the biological materials (claim 45) is important to the patentability of claims 34 and 45. There is no suggestion in Marcellin that the battery should be placed in the cold room after the respiring biological materials have been loaded into the cold room, or that the battery should be removed before the biological materials are unloaded from the cold room. It is only with knowledge of Applicant's invention that hindsight might suggest that there could be advantages in the loading and unloading procedures defined in claims 34 and 45. There are indeed such advantages, since Marcellin's battery, being present in the container during loading and unloading, puts constraints on the loading and unloading; for example, the biological material must be carefully packed around Marcellin's battery in order to ensure that neither the biological materials will the module is damaged. Applicant's invention avoids those constraints.

Conclusion

Applicant contends that, in view of the facts and arguments above, this appeal should be allowed.

Respectfully submitted

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J. CLAIMS APPENDIX to APPEAL BRIEF

This Appendix contains a copy of claims17, 18, 22-28, 30-36 and 38-52 and 55-60 which are involved in the appeal

17. (Previously presented) A container system which comprises

- (a) a shipping container which
  - (i) can be loaded onto and transported by a ship or a truck,
  - (ii) has a capacity of at least 40 m^3, and
  - (iii) has an exterior surface;
- (b) a respiring biological material which
  - (i) is sealed within the shipping container, and
  - (ii) is surrounded by an inner atmosphere; and
- (c) a module which
  - (i) was constructed separately from the shipping container,
  - (ii) is within the container, and
  - (iii) comprises a closed chamber including an internal atmosphere control member (ACM), an inlet for gas and an outlet for gas, the ACM having a surface area greater than 0.65 m^2 and comprising a first surface and a second surface, the first surface being in direct contact with the inner atmosphere, and the second surface not being in direct contact with the inner atmosphere, not being part of the exterior surface of the container, and being direct contact with a second atmosphere.

18. A container system according to claim 17 which comprises one or more sensors which measure the concentration of at least one gas in the inner atmosphere, pressure-generating means for supplying the second atmosphere to the second surface of the ACM, and a metering device for changing the rate at which the second atmosphere is supplied to the second surface of the ACM in response to input from the one or more sensors..

22. A container system according to claim 17 which comprises a first flexible conduit which connects the inlet of the module to one or more sources of the second atmosphere, and a second flexible conduit which connects the outlet of the module to a gas disposal means.

23. A container system according to claim 17 wherein the ACM (i) comprises a microporous film having a coating of a side chain crystalline polymer thereon and (ii) has an oxygen P_{10} ratio, over at least one 10°C range between -5 and 15°C, of at least 1.3.

24. A container system according to claim 17 wherein the respiring biological material is packed in a plurality of ACM-containing sealed inner containers.

25. A container system according to claim 17 wherein the module comprises first and second internal ACMs, the first ACM being a selective ACM which (i) has an R ratio of at least 3.0, and (ii) consists of a polymeric coating on a porous substrate, the porous substrate being a microporous film or a nonwoven fabric, and the second ACM having an R ratio of 1.0 to 2.3.

26. A container system according to claim 25 wherein the second ACM has an R ratio of 1.

27. A container system according to claim 17 wherein the module comprises a first chamber comprising a first internal ACM and a second chamber comprising a second internal ACM, the first ACM being a selective ACM which (i) has an R ratio of at least 3.0, and (ii) consists of a polymeric coating on a porous substrate, the porous substrate being a microporous film or a nonwoven fabric, and the second ACM having an R ratio of 1.0 to 2.3.

28. A container system according to claim 27 wherein the second ACM has an R ratio of 1.

30. A container system according to claim 17-wherein the second atmosphere flows through the chamber at a rate of 5-500 cfm.

31. A container system according to claim 17 wherein the rate at which the second atmosphere flows through the chamber is 0.0025 to 0.25 ft^3 per in^2 of ACM exposed to the second atmosphere.

32. A container system according to claim 17 wherein the chamber is selected from

(i) a rectangular parallelepiped which comprises two major faces and four minor faces; and in which at least one of the major faces includes an ACM, a first minor face includes at least one inlet for the second atmosphere, and a second minor face opposite the first minor face includes at least one outlet for an outgoing atmosphere, and

(ii) a chamber comprising a generally cylindrical surface which comprises the ACM, and two opposite end faces, one of the end faces including at least one inlet for the second atmosphere and the other of the end faces including at least one outlet for an outgoing atmosphere.

33. A container system according to claim 17 wherein the ACM consists of a microporous film having a single polymeric coating thereon.

34. A method of loading a container, said container being a shipping container which has a capacity of at least 40 m^3, and which can be loaded onto and transported by a ship or a truck, the method comprising

(A) providing said shipping container,

(B) loading a respiring biological material into the container;

(C) after step (B), placing in the container a module which

(a) was constructed separately from the container, and

(b) comprises (i) a closed chamber comprising an internal atmosphere control member (ACM), (ii) and inlet and (iii) an outlet, the ACM having a surface area greater than 0.65 m^2 and comprising a first surface and a second surface, the first surface being in direct contact with a first atmosphere surrounding the respiring biological material, and the second surface not being in direct contact with the first atmosphere, not being part of the exterior surface of the container, and being in direct contact with a second atmosphere within the closed chamber;

(D) connecting the inlet of the module to a first conduit which is connected to one more sources of the second atmosphere;

(E) connecting the outlet of the module to a second conduit which provides a gas disposal means; and

(F) sealing the container.

35. A method according to claim 34 wherein each of the first and second conduits is flexible.

36. A method according to claim 34 wherein the ACM has an R ratio of least 3.0.

38. A method according to claim 34 wherein the ACM (i) comprises a microporous film having a coating of a side chain crystalline polymer thereon and (ii) has an oxygen P_{10} ratio, over at least one 10°C range between -5 and 15°C, of at least 1.3.

39. A method according to claim 34 wherein the module comprises first and second internal ACMs, the first ACM being a selective ACM which (i) has an R ratio of at least 3.0, and (ii) consists of a polymeric coating on a porous substrate,
the porous substrate being a microporous film or a nonwoven fabric, and the second ACM having an R ratio of 1.0 to 2.3.

40. A method according to claim 34 which includes the step of providing within the container an auxiliary closed chamber which is different from the closed chamber of the

module, and which comprises an auxiliary internal atmosphere control member (ACM) having an R ratio of 1.0 to 2.3, and a first surface and a second surface, the first surface being in direct contact with the first atmosphere, and the second surface not being in direct contact with the inner atmosphere, not being part of the exterior surface of the container, and being in direct contact with an auxiliary second atmosphere.

41. A method according to claim 40 wherein the auxiliary ACM has an R ratio of 1.

42. A method according to claim 40 wherein the auxiliary ACM comprises a porous sheet material which does not have a polymer coating thereon, the porous sheet material being a nonwoven fabric or a microporous film.

43. A method according to claim 40 wherein the respiring biological material is packed in a plurality of ACM-containing sealed inner containers.

44. A method according to claim 34 which includes the steps of providing one or more sensors which measure the concentration of at least one gas in the atmosphere surrounding the biological material, and providing pressure-generating means for supplying the second atmosphere to the second surface of the ACM at a rate which can be changed in response to input from the one or more sensors.

45. A method of unloading a container system which comprises

(a) a shipping container which

(i) can be loaded onto and transported by a ship or a truck,

(ii) has a capacity of at least 40 m^3, and

(iii) has an exterior surface;

(b) a respiring biological material which

(i) is sealed within the shipping container, and

(ii) is surrounded by an inner atmosphere; and

(c) a module which

(i) was constructed separately from the shipping container,

(ii) is within the container, and

(iii) comprises a closed chamber including an internal atmosphere control member (ACM), an inlet for gas and an outlet for gas, the ACM having a surface area greater than 0.65 m^2 and comprising a first surface and a second surface, the first surface being in direct contact with the inner atmosphere, and the second surface not being in direct contact with the inner atmosphere, not being part of the exterior surface of the container, and being direct contact with a second atmosphere;

the method comprising the steps of

(A) unsealing the container,

(B) after step (A), removing the module, and

(C) after step (B), unloading the respiring biological material from the container.

46. A method according to claim 45 wherein the module comprises a first flexible conduit which connects the inlet of the module to one or more sources of the second atmosphere, and a second flexible conduit which connects the outlet of the module to a gas disposal means.

47. A method according to claim 45 wherein the ACM has an R ratio of least 3.0.

48. A method according to claim 45 wherein the ACM (i) comprises a microporous film having a coating of a side chain crystalline polymer thereon and (ii) has an oxygen P_{10} ratio, over at least one 10°C range between -5 and 15°C, of at least 1.3.

49. A method according to claim 45 wherein the module comprises first and second internal ACMs, the first ACM being a selective ACM which (i) has an R ratio of at least 3.0, and (ii) consists of a polymeric coating on a porous substrate, the porous substrate being a microporous film or a nonwoven fabric, and the second ACM having an R ratio of 1.0 to 2.3.

50. A method according to claim 45 wherein the sealed container includes an auxiliary closed chamber which is different from the closed chamber of the module, and which comprises an auxiliary internal atmosphere control member (ACM) having an R ratio of 1.0 to 2.3, the auxiliary ACM comprising a first surface and a second surface, the first surface being in direct contact with the first atmosphere, and the second surface not being in direct contact with the first atmosphere, not being part of the exterior surface of the container, and being in direct contact with an auxiliary second atmosphere.

51. A method according to claim 50 wherein the auxiliary ACM has an R ratio of 1.

52. A method according to claim 50 wherein the auxiliary ACM comprises a porous sheet material which does not have a polymer coating thereon, the porous sheet material being a nonwoven fabric or a microporous film.

55, A container system which comprises

(a) a shipping container which

(i) can be loaded onto and transported by a ship or a truck,

(ii) has a capacity of at least 40 m^3, and

(iii) has an exterior surface;

(b) a respiring biological material which

(i) is sealed within the shipping container, and

(ii) is surrounded by an inner atmosphere; and

(c) a module which

(i) was constructed separately from the shipping container,

(ii) is within the container, and

(iii) comprises a primary closed chamber including a primary internal atmosphere control member (ACM), a primary inlet for gas and a primary outlet for gas, the primary ACM having a surface area greater than 0.65 m^2 and comprising a first surface and a second surface, the first surface being in direct contact with the inner atmosphere, and the second surface

not being in direct contact with the inner atmosphere, not being part of the exterior surface of the container, and being direct contact with a primary second atmosphere, and

(d) an auxiliary closed chamber which

(i) is within the container,

(ii) is separate from the module, and

(iii) comprises an auxiliary internal atmosphere control member (ACM), the auxiliary ACM having an R ratio of 1.0 to 2.3 and comprising a first surface and a second surface, the first surface being in direct contact with the inner atmosphere, and the-second surface not being in direct contact with the inner atmosphere, not being part of the exterior surface of the container, and being in direct contact with an auxiliary second atmosphere.

56. A container system according to claim 55 which further comprises

(e) one or more sensors which measure the concentration of at least one gas in the inner atmosphere,

(f) primary pressure-generating means for supplying the primary second atmosphere to the second surface of the primary ACM at a rate which can be changed in response to input from the one or more sensors. and

(g) auxiliary pressure-generating means for supplying the auxiliary second atmosphere to the second surface of the auxiliary ACM.

57. A container system according to claim 53 wherein the auxiliary ACM has an R ratio of 1.

58. A container system according to claim 55 wherein the auxiliary ACM comprises a porous sheet material which does not have a polymer coating thereon, the porous sheet material being a nonwoven fabric or a microporous film.

59. A container system according to claim 55 wherein the primary closed chamber comprises a second internal atmosphere control member (ACM), the second ACM

having an R ratio of 1 to 2.3, and comprising a first surface which is in direct contact with the inner atmosphere and a second surface which is not in direct contact with the inner atmosphere, is not part of the exterior surface of the container, and is in direct contact with the primary second atmosphere.

60. A container system according to claim 55 wherein the module comprises (1) a first flexible conduit which connects the primary inlet to one or more sources of the primary second atmosphere, and (2) a second flexible conduit which connects the primary outlet to a gas disposal means.

K. EVIDENCE APPENDIX to APPEAL BRIEF

No evidence has been submitted pursuant to 35 CFR 1.130, 1.131 or 1.132.

L. RELATED PROCEEDINGS APPENDIX to APPEAL BRIEF

There are no related proceedings.

Respectfully submitted

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